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## **Sex disaggregation in energy research is not enough**

Professor Sarah Bradshaw<sup>1</sup>

The need to include gender in energy policy, practice and research is largely accepted. However, merely including women and men and disaggregating by sex is not enough. Such research when it informs energy efficiency initiatives often reproduces stereotypical understandings of sex differences. This may harm rather than promote gender equality.

From the board room to the front room women are increasingly being heralded as the innovators and economically efficient agents in all aspects of the energy sector. In the corporate sector women's leadership is said to result in improved business performance<sup>1, 2</sup> while in the home women make more sustainable consumption choices.<sup>3</sup> In the field of research and development also women are seen as bringing fresh perspectives to tackle global problems such as energy related climate issues.<sup>4</sup> The U.S. power sector suggests women could be the key to bringing new and 'different' ways of thinking to the sector.<sup>5</sup> It seems that women are seen to have a distinct way of knowing the world, a feminine if not a feminist ontology and epistemology, that brings new perspectives to old problems.

However, because they make up only an estimated 30% of science researchers globally<sup>6</sup>, women's ability to bring new and innovative solutions to energy sector problems may be limited. A 2014 review suggested less than 16% of authors publishing in energy journals were women, and that not one person in the entire sample of almost 4,500 people reported having training in women's studies, feminism, gender studies or related disciplines.<sup>7</sup> Not only are women missing from energy research but so too is gender.

### **Women, sex, and gender**

Gender captures the fact that differences between men and women are based on more than biology or differences by sex, they are also socially constructed. Society determines what it means to be male and female, what you can and cannot do, how you should and should not act. While women are not an homogenous group, and gender intersects with

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factors like age, ethnicity, and class to determine position and situation in society, socially constructed gender roles tend to confine women to the home, limiting their access to spaces of political and economic power. When women do work outside the home they tend to work in sectors that mirror their role as carers, and when entering 'male' occupational spaces such as science and technology a global gender career and pay gap persists. Social norms and related gender inequalities of power mean men and women live the same daily experiences differently, and there is differential access to and control over economic, social, political and everyday material resources, including energy.<sup>8</sup>

Access to energy services is linked to many aspects of well-being<sup>9</sup>, and while energy poverty is an issue across the globe, it is suggested to be experienced more by women and girls, due to their greater income poverty and as they are more likely to work and spend time in the home.<sup>10</sup> Energy access is often assumed to automatically benefit women and girls, but in fact they may be less likely to see the wellbeing benefits of energy. For example, not having access to electric light reduces the amount of time that can be spent studying, and this in turn reduces the ability to earn a wage later in life, increasing poverty and impacting on health. But even when a household has access to electricity (and many globally still do not) a girl child may be seen as a poor investment by her parents, destined to leave the family and become a wife, and so she may be less likely than her brothers to be given permission to turn on a light to study by.

Yet while women may have less access to and control over energy, conversely women are often presented as being at the forefront of addressing energy related concerns such as climate change. Actors such as the UNDP suggest 'women add value to the climate effort'<sup>11</sup> even though there is little evidence on which to base such a claim.<sup>12</sup> Similarly the volume of research on the relationship between gender and energy is still relatively small<sup>13</sup> and evidence around how women benefit from access to improved energy sources is 'mixed, minimal, or unclear'.<sup>14</sup> This despite gender being a mainstream policy concern.

### **Gender blind versus gendered research**

Gender has become mainstream in many calls by research councils, such as the ESRC-DFID Joint Fund for Poverty Alleviation Research. A recent systematic review<sup>15</sup> of the 122 research projects funded in the first ten years of this scheme (2005-2015) found that 40% of projects reviewed had no mention of gender. While in a very small number of cases the topic could be seen to be gender neutral, having no gender element, in the majority of cases the focus of the studies (for instance, health and education) had a gender element to them. The majority of researchers who produced non-gendered research were gender blind – they

ignored the gender dimensions. Some were more actively non-gendered – they recognised that gender differences may exist and then spent time explaining why they are not important to study.

That the majority of the studies (60%) were gendered seems like good news, but not when examined more carefully. As with any subject of research, gendered research needs to be grounded in gender literature. Gendered analysis seeks to better understand what structural factors shape gendered differences in roles, relations and identities and ultimately address inequalities of power. Of all the studies reviewed under the ESRC-DFID scheme and defined as gendered 28% took this approach. The remaining 32% that were defined as gendered included 'gender' but not as gender scholars would recognise it.

### **Doing gender by sex disaggregation**

Many studies in the ESRC-DFID review that suggest they are 'doing gender' in fact merely disaggregate quantitative data by sex, presenting data in the form of 'women do X and men do Y'. Such an approach, merely highlighting there are differences, tells us very little about why there are differences and what the differences mean. Differences are often stated as if the data speaks for itself – an approach based on the false assumption of a universal biological sex-based binary. Differences are not self-explanatory since gender is socially constructed, gender identities are a spectrum not a binary, and gender roles and relations differ over time and space. Explaining differences by gender thus needs an understanding not just of gender theory, but of the specific context in which the gender differences occur.

Some studies that disaggregated by sex did try and explain differences, and how they do this is telling about how gender is understood as a research area. Instead of referring to gender literature, often the analysis draws on stereotypical ideas of gender roles and relations based on the researcher's everyday understandings of gender and lived experiences as a gendered being. It is strange that a western man, or woman, can think they 'know' through their own experiences about, for instance, rural women's experiences of inequalities in the Global South. To understand her experiences would imply having studied gender roles and relations in the specific context or at least having read the writings of those who have. To produce gender knowledge needs gendered knowledge. Unfortunately, research on gender by sex disaggregation often fails to engage with the gender literature and build on existing gendered knowledge.

### **Doing gender, not gender equality**

Other studies that fell into this gender-but-not-gendered category in the ESRC-DFID review included those that include women as the object not the subject of the study. For example, a study noted how women's collection, processing and sale of environmental products during lean periods may ensure the household does not go hungry, but will make women even more time-poor. Rather than exploring how this may impact on women's health and well-being, it instead focused on how such diversification of women's activities will decrease vulnerability to climate variability in the longer term. If such studies are then used by policy makers, the result might well be policy targeted at women that would encourage their engagement in these income-generating activities. This could further the collective good, but not necessarily the wellbeing of women. In fact, while presented as empowering for women, such women-targeted projects may instead harm women.

We see this approach echoed in the current energy sector discourse. The clean cookstoves movement is a good example, with the discourse highlighting how women's time is freed up to better care for children and/or undertake income generating activities.<sup>16</sup> This reinforces women as the ones responsible for feeding the family, helping them do it 'better' – read, more efficiently. Giving women clean cookstoves does not question why women are the ones doing the cooking, and as such reinforces the gender inequalities such stoves are said to challenge. If they use their newly 'free' time to engage in paid work, it creates a double burden for women – continuing reproductive work and adding on productive work. While benefiting the family, community and the environment, for women it may do more harm than good.

Just as resources aimed at improving the health and education of children are targeted at women in their socially constructed role as main carer, so too women are socially constructed as closer to nature and protectors of the planet. The double identity of women as both (environmentally) virtuous and (socially) vulnerable<sup>17</sup> creates a win-win situation for policy makers, who by targeting women can achieve environmental and gender goals with one project.<sup>18</sup> Furthermore, as greater gender equality has been shown to bring productivity gains, including gender becomes just 'smart economics', helping meet economic growth aims<sup>19</sup> Critics suggest far from serving women, women now serve policy agendas<sup>20</sup> and there has been a feminisation of responsibility and obligation<sup>21</sup> whereby women's already weighty care burdens have become heavier and less negotiable over time.

Projects such as clean cookstoves also assume that by providing new technology 'the problem' will be solved, based on the assumption all people can adapt with the right resources and knowledge.<sup>22</sup> Women may know the importance of not cutting down trees for

fuel, they may wish to use a clean energy stove, but if they have no access to income of their own and no control over the income of their partner they cannot act on this information. It is not that women don't know, it is that they cannot act, and more knowledge and technology may not necessarily improve women's situation. Improvements can only be achieved by addressing the gendered inequalities that limit women's autonomy in the first place.

These instrumentalist gender policies target women, but are not necessarily about gender equality—they are about stopping deforestation, or increasing uptake of clean energy, or reducing carbon emissions, or adapting to climate change. The 'solution' is women or involves women but it is not about women or improving women's welfare. Research in which women are the object of the research but not the subject, provide an evidence base for such 'solutions'. Such studies reproduce stereotypical notions of altruistic women and while the policy the research informs may, for example, improve uptake of clean energy, this may come at a price that is not taken into account – women's wellbeing.

### **Doing gender equality**

It is important to include gender in all research about energy, as energy is not gender neutral but highly gendered. However, 'doing' gender is not about improving energy efficiency but about improving gender equality in energy, which in turn may help improve energy efficiency. Disaggregation by sex is on one end of the 'doing gender' spectrum, but what is produced is not necessarily gendered knowledge. As gender is socially constructed, data needs to be explained and understood in the societal context. Thus, to produce gendered knowledge needs a gendered knowledge base, and to include a gender perspective in a research project means including a gender expert in the research project. In this way gendered research can inform gendered policy and promote gender equality, as well as energy efficiency aims.

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